

WHAT IS CLAIMED IS:

1 1. A method of inhibiting programmed cell death in a maize plant
2 comprising introducing a construct comprising a programmed cell death inducible promoter
3 operably linked to a nucleotide sequence that inhibits programmed cell death into said plant,
4 whereby programmed cell death in the lower floret of said plant is inhibited.

1 2. The method of claim 1, wherein the nucleotide sequence encodes a
2 plant growth regulator synthesizing enzyme.

1 3. The method of claim 2, wherein the enzyme catalyzes the synthesis of
2 cytokinin.

1 4. The method of claim 3, wherein the enzyme is isopentenyl transferase.

1 5. The method of claim 1, wherein the programmed cell death inducible
2 promoter is SAG12.

1 6. The method of claim 5, wherein the SAG12 promoter is from
2 Arabidopsis thaliana.

1 7. The method of claim 6, wherein the SAG12 promoter is 70% identical
2 to SEQ ID NO:1.

1 8. The method of claim 1, further comprising detecting increased levels
2 of protein within said plant.

1 9. The method of claim 1, further comprising detecting increased levels
2 of oil within said plant.

1 10. The method of claim 1, further comprising detecting increased levels
2 of oil and protein within said plant.

1 11. The method of claim 1, further comprising detecting the presence of a
2 kernel having multiple embryos.

1 12. The method of claim 1, wherein the construct is introduced by a type
2 of sexual cross.

- 1 13. The method of claim 1, wherein the construct is introduced by
2 transformation.
- 1 14. A transgenic maize plant comprising an expression cassette comprising
2 a programmed cell death -inducible promoter operably linked to a nucleotide sequence
3 encoding an inhibitor of programmed cell death, the maize plant having kernels with multiple
4 embryos.
- 1 15. The transgenic plant of claim 14, wherein the nucleotide sequence
2 encodes a plant growth regulator synthesizing enzyme.
- 1 16. The transgenic plant of claim 15, wherein the enzyme catalyzes the
2 synthesis of cytokinin.
- 1 17. The transgenic plant of claim 16, wherein the enzyme is isopentenyl
2 transferase.
- 1 18. The transgenic plant of claim 14, wherein the programmed cell death
2 inducible promoter is SAG12.
- 1 19. A kernel from a transgenic maize plant comprising multiple embryos,
2 wherein the kernel has increased oil and protein content.
- 1 20. A method of inhibiting programmed cell death in a maize plant
2 comprising introducing a promoter from a floret specific gene operably linked to a nucleotide
3 sequence that inhibits programmed cell death into said plant, whereby programmed cell death
4 in the lower floret of said plant is inhibited.
- 1 21. The method of claim 20, wherein the floret specific gene is associated
2 with programmed cell death.
- 1 22. The method of claim 20, wherein the floret specific gene is not
2 associated with programmed cell death
- 1 23. The method of claim 20, wherein the nucleotide sequence encodes a
2 plant growth regulator synthesizing enzyme.

204030 4403400T

1 24. The method of claim 23, wherein the enzyme catalyzes the synthesis of
2 cytokinin.

1 25. The method of claim 24, wherein the enzyme is isopentenyl
2 transferase.

1 26. The method of claim 20, further comprising detecting increased levels
2 of oil and protein within said plant.

1 27. The method of claim 20, further comprising detecting the presence of a
2 kernel having multiple embryos.